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Linguistic analysis of neologism related to coronavirus (COVID-19)

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ABSTRACT

The current study aimed to explore the linguistic analysis of neologism related to Coronavirus (COVID-19). Recently, a new coronavirus disease COVID-19 has emerged as a respiratory infection with significant concern for global public health hazards. However, with each passing day, more and more confirmed cases are being reported worldwide which has alarmed the global authorities including the World Health Organization (WHO). In this study, the researcher uses the term neologism which means the coinage of new words. Neologism played a significant role throughout the history of epidemic and pandemic. The focus of this study is on the phenomenon of neologism to explore the creation of new words during the outbreak of COVID-19. The theoretical framework of this study is based on three components of neologism, i.e. word formation, borrowing, and lexical deviation. The researcher used the model of neologism as a research tool which is presented by Krishnamurthy in 2010. The study is also compared with the theory of onomasiology by Pavol Stekauer (1998). The secondary data have been used in this study. The data were collected from articles, books, Oxford Corpus, social media, and five different websites and retrieved from January 2020 to April 2020. The findings of this study revealed that with the outbreak of COVID-19, the majority of the people on social media and state briefings, the word-formation is utilized in the form of nouns, adjectives, and verbs. The abbreviations and acronyms are also used which are related to the current situation of COVID-19. No doubt, neologisms present colorful portrayals of various social and cultural practices of respective societies the rationale behind them all remains the same.

1. Introduction

The Covid-19 pandemic is not only putting a great strain onto our health system, but it also highlights the linguistic change and adoption of new phrases across the globe. The novel COVID-19 infection has deeply affected globally. With the number of people infected by the novel coronavirus (COVID-19), which is rapidly increasing worldwide, public anxieties are elevated in many regions. As the COVID-19 outbreak is going on, a wave of fear and worry in the society has arisen. No one wants to get infected with a virus that has a relatively high risk of death (Sahu, Mishra, & Lal, 2020). On the other hand, during the COVID-19 outbreak, the executive editor of Oxford English Dictionary, Paton stated that it was “a rare experience for lexicographers to observe an exponential rise in usage of a single word in a very short period, and for that word to come overwhelmingly to dominate the global discourse, even to the exclusion of most other topics”. Oxford English Dictionary (OED) lexicographers and many others are working from home and contributing to the development of the language of the pandemic. The

whole world is discussing the novel Coronavirus outbreak and its devastating impact on countries across the globe. Almost every day we come across many medical terms and words and phrases associated with the COVID-19. Covid-19 disease has become a dominating global discourse.

The language of a human being is considered as a creative entity. Additionally, it is dynamic and not static. However, these qualities support a language to survive and grow. It is a fact that the lexicons of all languages are developing day by day. Therefore, the new editions are in the form of neologism, i.e. word formation, borrowing, and lexical deviation. The same is the case with the discourse of COVID-19. The new terms emerged globally during the outbreak of COVID-19. Neologism is a phenomenon and described the new words in a language. According to Stenatorp (2010), “a neologism is a lexeme that is not described in dictionaries”. The focus of this study is on the phenomenon of neologism to explore the creation of new words during the outbreak of COVID-19.

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2. Literature review

The Latin word ‘corona’ means ‘crown’. The virus is called ‘corona’ because of its crown-like shape and spikes. In the wake of the COVID-19 outbreak, to define new situations new words have been coined and they are widely used on print and social media. In January and February 2020, there are keywords associated with COVID-19 while, others related to global events, i.e. Donald Trump’s impeachment, Australian bushfires, locust swarms in East Africa, the assassination of Qasem Soleimani, and inquiries into the Astros sign-stealing scandal, etc.

“In January 2020, the words mainly relate to naming and describing the virus: coronavirus, SARS, virus, human-to-human, respiratory, flu-like,” explored the OED in an analysis. “By March, the keywords reflect the social impact of the virus, and issues surrounding the medical response: social distancing, self-isolation and self-quarantine, lockdown, non-essential (as in non-essential travel), and postpone are all especially frequent, as are PPE and ventilator.”

Neologism processes to generate new words. Qasar (2015) argued that neologism helps in creating the form of words and coinage of new words. It spots and facilitates word form and coinage of new words in a language. In the social and cultural context, neologism also highlights the present and modern perspectives. Khan (2013) stated that neologism or coining new words is an important tool to study the variation or change in the language. Very often we coin innovative words to explain or describe new ideas and things, but importantly when there is no word presently available to more accurately express our thoughts or experiences. Neologism also represents loan words, acronyms, and abbreviations. As ODE (2003), a neologism is defined as “a newly generated word or lexical item that may be in the process of switching in common life”. However, it cannot be accepted widely as a formal language. Peprnik et al. 2006 described that neologism focuses not only on linguistics but also represents in other filed of life. “A neologism is a new word or sense of a word” (Peprnik, 76). This study explores and analyzes the neologism in the perspective of the outbreak of COVID-19. People around the world used the formation of different words to highlight their language effectively during the outbreak of Coronavirus.

The people, who use language around the world, can generate and coin new words as per their interest and need. However, they practice it with the support of existing words. On the other hand, language plays a role like a bridge and it associates other cultures, languages, and individual persons and this type of linking represents syntactical words and new morphological structures. So, the language incorporates interpersonal and social phenomenon that transfers information from generation to generation. A language is considered as a blend of ideas and thoughts which automatically generates and coins new words to accomplish the needs of conversational situations. According to Khan (2013), the strength of new words exceeds the accumulative extent of information. Asif et al., (2019) also shed light on the formation and utilization of new words in their study and focus on the users of language in a particular context. Qaisar (2015) argued that “the writer goes beyond the prescriptive rules of using a language and coins several new expressions which do not fit into the conventional grammatical rules”. While Usevics (2013) stated that the words should not be older than twenty-five years, “so it could be considered a neologism”. Crystal (2001) clarifies neologism as the foundation of new lexical items and acceptable within a speech community at a specific time. According to Janssen (2005) neologism forms a linguistic category. It signifies the components of language modification. Further, it also defines that language is not static but it possesses a dynamic potential.

3. Theoretical framework and research methodology

The theoretical framework of this study is based on three components of neologism, i.e. word formation, borrowing, and lexical deviation. The researcher used the model of neologism presented by Krishnamurthy in 2010 (Fig. 1).

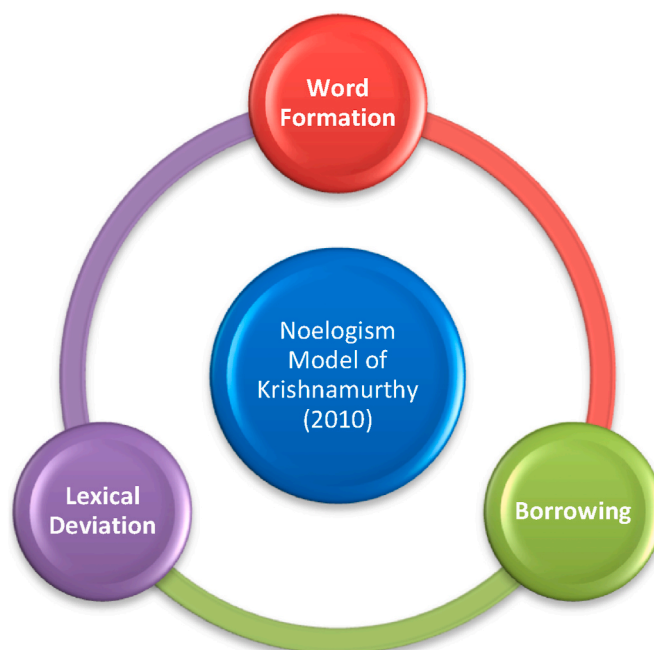


Fig. 1. Neologism model (Krishnamurthy 2010).

The first component of neologism highlighted by Krishnamurthy (2010) was word-formation. Word formation processes are based on compounding, blending, affixation, coinage, and acronym. Morphemes are defined as “minimal units of words carrying complete meaning”. The second component of this model is borrowing. The speakers intermix various languages for the easiness of communication. According to the context and situation the speakers borrow a sentence or a single word to make communication effective. Borrowing is a tool that develops a vocabulary of a language. Borrowing focuses a great impact on the corpus of the current study. The third component of the theoretical framework is lexical deviation. Lexical deviation happens when a writer makes up a word which has not existed before. This is called neologism, or the invention of new words. It is one of the more obvious ways in which a writer exceeds the normal use of the language (Leech, 2014). Lexical deviation tends to produce neologism which refers to “creation of new words where existing rules (of word formation) are applied with generalization”. Ray (1995) argued that newly born sentences and words cannot be recognized as a neologism, simply such as “combination of phonemes cannot be called neologism. All neologisms fall between word and phrase, a specific field which he calls the specific domain of lexicology”.

The secondary data have been used in this study. The data were collected from articles, books, Oxford Corpus, social media (Twitter), and five different websites and retrieved from January 2020 to April 2020. The description of neologism data has been represented in the form of tables and graphs. All categories of neologism have been analyzed in terms of the model. This study comprises on mixed-method approach in nature. The qualitative analysis describes each neologism component by using the neologism structure and it is based on the content-based analysis. On the other hand, quantitative data analysis focused on Oxford Corpus (see reference).

4. Discussion and findings

The purpose of this research was to explore the new words and expressions that were emerged as a result of COVID-19. The two new words (Covidiot and Covidient) emerged during the outbreak of COVID-19 and all the renowned dictionaries of the world defined these terms comprehensively. We can easily guess the meanings of the two

portmanteau words, i.e. Covidiot and Covidient. Covidiot is a combination of 'coronavirus' and 'idiot' and it refers to a person who does not follow the directives and orders such as 'social distancing' and behaves like an idiot. Covidient is a combination of 'coronavirus' and 'obedient'. UrbanDictionary.com, which coined the word 'Covidiot' defines it as "someone who ignores the warnings regarding public health or safety". Here are examples covidiot of how the word is used in sentences:

- Social Distancing alone can help to contain coronavirus. I don't know why covidiot don't understand it.
- Tell the covidiot not to take medicine without consulting doctors.

Unlike covidiot, covidient are the people who strictly follow the directives and orders of the government during the coronavirus outbreak. Examples:

- Thanks to numerous covidients, the curfew was successful.
- We are all covidients and we will cooperate with the government.

The words 'self-quarantine' and 'self-isolate' are intransitive verbs and they are some of the most frequently used words in social media posts, comments, news stories, and reports. Examples:

- As the Coronavirus spreads fast, all those who have returned from foreign countries have been asked to self-quarantine to contain the outbreak.
- Since you had contact with those who returned from France, you need to self-isolate for two weeks.

The terms which are used in the 19th century put to modern use, particularly relating to recent epidemics and crises have emerged the new words, abbreviations acronyms and phrases. These new words are associated with the COVID-19 epidemic and these have wider use all over the world. Infodemic a portmanteau word which means information and epidemic has become the expression of media and COVID-19. This term infodemic was coined in 2003 particularly for SARS but it also has been used for the recent proliferation of COVID-19 (Table 1).

Old and previous unacquainted abbreviations have become a part of the vocabulary. However, the term working from home (WFH) emerged in 1995 and this abbreviation was less familiar. In 1977, personal protective equipment (PPE) term was recognized and restricted to emergency and health care professionals. The origin of this term is related to dates back from 1934. Nowadays PPE is a popular word in social media due to COVID-19 (Table 2).

The medical terms have been used frequently during the outbreak of COVID-19. Most of the people were unaware of these terms. These terms are used widely on social media and press conferences of different

Table 1
Abbreviation and Acronyms used during COVID-19.

Abbreviation/ Acronyms	Description
WFH	"Working from home"
PPE	"Personal protective equipment"
Covid-19	"COVID-19 is the name of the disease that the novel coronavirus causes. It stands for coronavirus disease 2019".
nCoV	"Coronavirus disease 2019"
2019-nCoV	"Coronavirus disease 2019"
ARDS	"Acute Respiratory Distress Syndrome"
ARI	"Acute Respiratory Infection"
CDC	"Centres for Disease Control and Prevention"
PUI	"Patient Under Investigation"
PCR	"Polymerase chain reaction"
SARS-CoV-2	"Novel coronavirus 2019 is the name of the disease caused by SARS-CoV-2"
CFR	"Case Fatality Rate"
WHO	"World Health Organization"

Table 2
Medical Terms used in COVID-19.

Word	Usage
Asymptomatic	"Asymptomatic means not showing signs of the disease".
Symptomatic	"Symptomatic means someone who has symptoms of a particular disease".
Clinical trial	"Clinical trials are research investigations in which people volunteer to test new treatments, interventions or tests as a means to prevent, detect, treat or manage various diseases or medical conditions".
Community spread	"Community spread refers to people in the same location contracting the virus without an obvious chain of events".
Epidemic	"An epidemic is a situation where a disease spreads rapidly".
Incubation period	"The incubation period means the time between catching the virus and beginning to have symptoms of the disease. Most estimates of the incubation period for COVID-19 range from 1 to 14 days, most commonly around five days".
Flatten the Curve	"Without mitigation, social distancing and all the rest, epidemiologists and other health experts predict a sharp increase in COVID-19 cases that looks like a tall, narrow spike on a graph. By following guidelines, the projected model looks shorter and spread out over time".
Pandemic	"Pandemic is an epidemic that has become a worldwide phenomenon".
Vaccine	Medicine to kill the virus.
Ventilator	"A ventilator is a type of equipment that is used in the ICU to assist people in breathing when they are unable to do so themselves".
Virus	"The word virus comes from a Latin word meaning venom and describes a tiny, tiny agent that causes infectious disease".
Zoonotic	"It exists in animals but can also infect humans. A report from the WHO suggests that bats might have been a host of the virus, though it could have passed through other species before arriving on humanity's doorstep".
Immunity	"The immune system protects the body against disease or other potentially damaging foreign bodies. When functioning properly, the immune system identifies and attacks a variety of threats, including viruses, bacteria and parasites".
Sanitizer	"To sanitize means to clean something by removing the dirt or destroying the germs".

medical fields globally (Table 3).

Social media and blogs played a vital role in the adoption of new words and expressions. Thanks to social media, we are familiar with words such as lockdown, epidemic, pandemic, superspreader, self-isolation, self-quarantine, and word chunks (collocations) such as social distancing, community spread, cordon sanitaire, droplet transmission, flattening the curve, tsunamis of COVID-19 cases, emerging disease, solitary confinement, animal-human interface, incubation period, contain the outbreak and viral shedding. Who are super-spreaders? They are a small group of people of about one in five who transmit infections to far more people than the majority do. It is believed that super-spreaders may not be good at suppressing the virus because of their immune system. Flattening the curve' refers to isolation measures taken by a community, region, or country to keep the daily number of disease cases at a manageable level. The term 'cordon sanitaire' refers to the restriction of movement of people into or out of a defined geographic

Table 3
A Glossary of Terms related to COVID-19.

Coronavirus: A Glossary of Terms
Corona/Coronavirus/Novel Coronavirus/COVID-19
Outbreak/Epidemic/Pandemic
Quarantine/Self-quarantine/Isolation/Cordon sanitaire
Symptom/Symptomatic/Asymptomatic/Incubation
Spread/Community Spread/Communicable/Contagion
Morbidity/Mortality
Super-spreader/Transmission
Stay-at-Home
Lockdown
Mask
Social Distancing

area. Becoming familiar with collocations such as ‘die from something’, ‘die of something’, ‘become apparent’, ‘grow dramatically’, ‘pose problems’ can help learners of English learn the language meaningfully and use words appropriately.

In 1976, when the nuclear attack occurred, people were instructed to keep themselves safe to stay indoors, the phrase shelter-in-place was the first time used to find a safe place in their surroundings. Nowadays there is a resemblance of the phrase between shelter-in-place and stay at home to protect from COVID-19. The social distancing term was used in 1957 referring to aloofness socially from others to avoid infection. Hand slap along with elbow bump practiced in 1981. In this modern era, people are practicing elbow bump and hand slap due to the outbreak of COVID-19. Over the past few weeks, we have become so familiar with some of the terms through social media, news, and state briefings but they captured the attention of the world due to new and wider usage to elaborate the current situation of COVID-19. The term self-isolation was used in 1834 while self-isolating in 1841. These terms were meant for self-imposed isolation to keep safe from epidemics. In social media, the term self-isolation is widely used to prevent COVID-19. On the other hand, social distancing was used in 1957. The term superspreader was used during the epidemic of SARS which means to someone who transmitted the disease or virus to maximum persons.

The Table 4 demonstrates the top twenty words (collocates) of the COVID-19 outbreak from January to March. These words have a statistically significant frequency. All these words are collocates and occur in various patterns, i.e. outbreak, coronavirus, fight for coronavirus, novel coronavirus, fear of death, new cases and COVID-19 patient, etc. The usage of these words depends on the situation and context.

The Table 5 displays the top twenty keywords related to the outbreak of COVID-19 from January to March. The most frequently used words in public in general communication are highlighted in red. However, other events and cases rather than COVID-19 have a great impact globally, i.e. Donald Trump’s impeachment, the assassination of Qasem Soleimani, Democratic caucuses, investigations into the Astros sign-stealing scandal and locust swarms in East Africa. Therefore, these top twenty keywords are significantly related to COVID-19.

These keywords are revealing to compare COVID-19 from January 2020 to March 2020. However, during January 2020, these keywords mainly associated with SARS, virus, Coronavirus, respiratory, human to human, flu-like, and quarantine. While in February, the keywords changed, i.e. Coronavirus, COVID-19, quarantine, pandemic, virus, outbreak, infect, self-isolate and SARS, etc. In March, the words reveal the social impact of COVID-19 and issues related to the medical field as well. There are also prominent keywords, i.e. lockdown, self-quarantine,

Table 4
Top twenty words (collocates) of COVID-19 outbreak from January to March.

	January	February	March
1	outbreak	outbreak	outbreak
2	novel	novel	pandemic
3	deadly	spread	spread
4	Wuhan	case	case
5	spread	China	novel
6	China	epidemic	positive
7	2019-nCoV	impact	crisis
8	strain	COVID-19	test
9	case	fear	COVID-19
10	infection	deadly	impact
11	infect	confirm	new
12	confirm	new	confirm
13	epidemic	test	fight
14	originate	Wuhan	fear
15	symptom	infection	response
16	new	positive	disease
17	fear	infect	patient
18	toll	concern	cause
19	spreading	patient	death
20	declare	disease	concern

Table 5

Keywords (COVID-19 from January 2020 to March).

	January	February	March
1	bushfire	COVID-19	COVID-19
2	coronavirus	coronavirus	pandemic
3	Iranian	quarantine	distancing
4	SARS	pandemic	coronavirus
5	Iraqi	virus	self-isolate
6	sign-stealing	outbreak	lockdown
7	koala	caucus	self-isolation
8	virus	locust	sanitizer/sanitizer
9	impeachment	infect	quarantine
10	airstrike	epicentre/epicenter	ventilator
11	human-to-human	self-isolate	non-essential
12	locust	nCoV	self-quarantine
13	airliner	epidemic	virus
14	respiratory	SARS	outbreak
15	outbreak	infected	corona
16	assassination	sign-stealing	PPE
17	flu-like	acquittal	postpone
18	fire-affected	hereditary	disinfect
19	quarantine	stop-and-frisk	isolation
20	militia	evacuee	self-isolating

social distancing, self-isolation, non-essential, ventilator, postpone, and PPE.

The bar charts below demonstrate the frequency of words denoting coronavirus. Since the last four months of the outbreak of coronavirus, several words have been used on different forums and social media. It has been observed that most of the words have used more frequently in different degrees. Moreover, there were plenty of shortened forms of words also utilized globally, i.e. corona, covid, rona and rone, particularly on social media. The abbreviations of coronavirus were observed at a higher degree at the end of March 2020 (Fig. 2).

The remarkable change has been increased in the frequency of words related to coronavirus day by day. The majority of the people were unaware of the coronavirus and scientific discourse before 2020. Coronavirus was coined at the end of February 2020 and became prominent on the canvas of the globe very rapidly. Now it has become a global discourse. The Fig. 3 displays the frequency of words related to COVID-19 used by people during January to March 2020.

The new terms of coronavirus have emerged in February and March 2020, i.e. SARS-CoV-2, 2019-nCoV, nCoV, covid, and corona. The highest degree of response demonstrates that the majority of the people around the world are familiar with corona.

The Fig. 4 shows that many of the words utilized in the outbreak of the COVID-19 were not completely new but comparatively uncommon before 2020. The two sets of terms (self-isolation/self-isolate, social distancing/social distance) have become popularized in March 2020. The outbreak of COVID-19 affected the world’s economy adversely in more than two hundred countries. However, during the pandemic

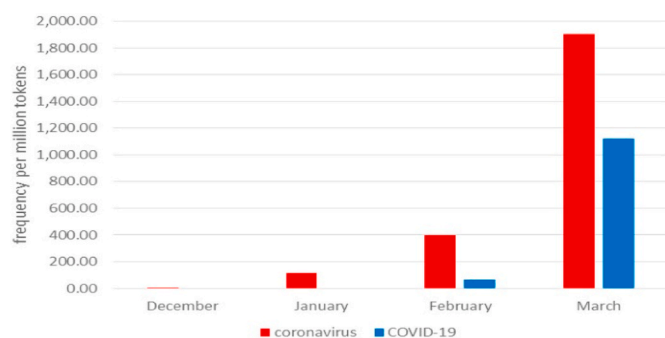


Fig. 2. Frequency of words related to COVID-19 used by people during January to March 2020. Source: Oxford Corpus. <https://public.oed.com/blog/corpus-analysis-of-the-language-of-covid-19/>. Accessed 27 April 2020.

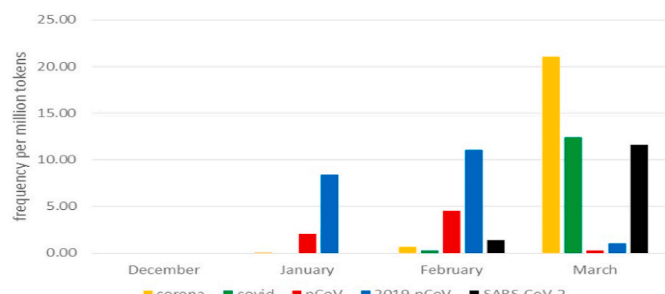


Fig. 3. Frequency of words related to COVID-19 used by people during January to March 2020. Source: Oxford Corpus. <https://public.oed.com/blog/corpus-analysis-of-the-language-of-covid-19/>. Accessed 27 April 2020.

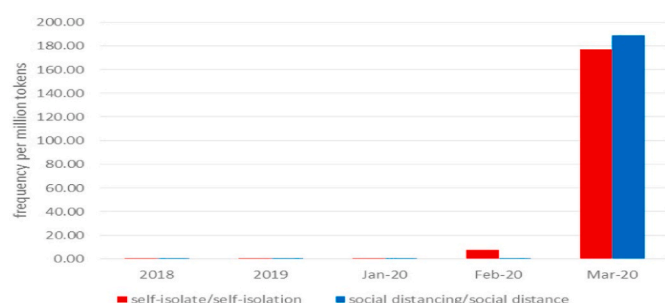


Fig. 4. Frequency of words related to COVID-19 used by people during January to March 2020. Source: Oxford Corpus. <https://public.oed.com/blog/corpus-analysis-of-the-language-of-covid-19/>. Accessed 27 April 2020.

outbreak, the glossary related to finance and the economy utilized widely all over the world. Some of the economic and financial terms are given below in the Table 6.

5. Conclusion

With the expansion of world diseases, vocabulary and new words also emerged. In 1738, yellow fever appeared and Spanish influenza spread in 1890. Poliomyelitis spread in 1878, later it shortened to Polio in 1911. After World War Two (WWII) epidemics broke out and most children were affected. In recent decades, it has been observed the share of linguistic coinage related to epidemic and pandemic. SARS appeared in 2003 while AIDS in 1982. In 1968, coronaviruses were discussed first time in the Paper of Nature but very few people had known in 2020.

It is noticed that the previous pandemics also gave rise to new words and vocabulary. In 1382, epidemic appeared first time in Europe, i.e. fatal disease or epidemic and pestilence. Another epidemic was broke out in Europe from 1347 to 1351 was the bubonic plague. In 1878 the term self-quarantined was first time used and the villagers of Eyam put isolated themselves to prevent from Black Death. So, throughout the history of epidemics, new words have been used frequently. Same is the case with the modern world, there are plenty of new words have been utilized during pandemics.

It is also observed that all types of word formation process did not involve fully in the creation of neologism in the perspective of COVID-19. The study somehow focuses on the theory of onomasiology by Pavol Štekauer (1998). He investigated the word-formation process in terms of the speech community. However, in this condition mostly noun represents neologism. The same is the case with the outbreak of COVID-19, the majority of the people on social media and state briefings, the word-formation is utilized in the form of nouns, adjectives, and verbs. The abbreviations and acronyms are also used which are related to the current situation of COVID-19. No doubt, neologisms present colorful portrayals of various societies and cultures but they don't exist

Table 6

Economic and financial terms used in COVID-19.

Terms	Description
Furlough	A "furloughed" is someone who's out on furlough, millions of workers are now on "furlough" due to lack of business during the pandemic.
Profiteering	"The act or practice of seeking exorbitant profits, especially through the sale of scarce or rationed goods".
Price Gouging	"An act or instance of charging customers too high a price for goods or services, especially when demand is high and supplies are limited".
Deferred interest	It was issued for consumers to defer the interest due to coronavirus.
Forbearance	It is delaying payment and offered to homeowners affected by covid-19.
Layoff	It means employees permanently dismissed. And they're eligible to earn during covid-19.
SBA	Small Business Administration. During the pandemic, loans were offered to those people who affected from COVID-19.
Stimulus payment	During times of economic hardship, the Government sent the payment to taxpayers to help them and their dependent children.
Ehsaas Emergency Cash	"Ehsaas Emergency Cash program has been launched by the Pakistani Prime Minister (Imran Khan) on April 1, 2020 in the context of the economic hardship being experienced by the vulnerable due to the on-going coronavirus crisis".

in our own. The findings of the study reveal an inclination to perform some other systems and refrain from developing target language neologisms. Presently, neologisms are organized in different ways due to the crisis of the coronavirus outbreak throughout the world. Thus, neologisms emanate from different contexts of the incidence of COVID-19. Bauer (1994) summed up that "neologisms should continually take a shot at understanding them and also know the approaches to present them in a simple and readable way. At the moment when a word is coined, it may not be possible to tell what its eventual status will be in a language: it may become part of the norm of the language and turn out to have been a neologism, or it may not, and remain as nonce word".

CRedit authorship contribution statement

Muhammad Asif: He worked on the framework of the research paper. Additionally, he worked on, Data curation, Formal analysis, Writing – original draft. **Deng Zhiyong:** Supervision, He supervised the research paper. He also helped in, Writing – review & editing. **Anila Iram:** She assisted in the, Investigation, Methodology, Project administration, Resources. **Maria Nisar:** She worked on, Validation, Visualization, Visulation.

Declaration of competing interest

There is no conflict of interest.

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